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Industrial Policy in the context of Climate Emergency: the case for a Green New Deal

Dr Daniel Bailey

Manchester Metropolitan University

Future Economies UCRKE

About the author



Dr Daniel Bailey is a Senior Lecturer in Political Economy at Future Economies, Manchester Metropolitan University. He previously worked at the University of Manchester, the Sheffield Political Economy Research Institute at the University of Sheffield, and the University of York. He conducted his ESRC-funded PhD research at the University of Sheffield. He has published in a wide range of leading academic journals including *New Political Economy*, *Competition and Change*, *Local Government Studies* and *British Politics*. He has co-edited a collection with Prof. Colin Hay for Palgrave. He has also co-authored reports for think tanks such as the New Economics Foundation, Policy Network and the Foundation of European Progressive Studies.

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All views expressed in this paper are those of the author, and are not necessarily shared by Future Economies or Manchester Metropolitan University.

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Introduction

Historically there has been a notable disjuncture between economic policy and climate science, and formulation of industrial policy has been no exception. The presumption of inexhaustible natural resources and the absorption capacities of ecosystems made by economists was, in a sense, more explicable in the context of the benign ecological conditions of the 18th and 19th centuries. However, the growth of economic activity in the 20th century revealed the folly of such assumptions. It is a remarkable characteristic of our age that economic policy-making has still not yet come to terms with the relationship between the global economy and the ecological crisis, the role of government policy in organising ecological degradation, or the consequences of ecological degradation for the global economy in the 21st century. Industrial policy has remained committed to nurturing forms of economic activity that exacerbate ecological instability.

Since the autumn of 2018, however, the Green New Deal has dramatically re-emerged on the political agenda across North America and Europe. These proposals invoke the Keynesian intellectual traditions of progressive parties but update and advance them through integrating ecological goals and drawing upon many strands of contemporary thinking and academic research on green industrial strategy, green quantitative easing, modern monetary theory, and the entrepreneurial state (Bailey and Craig 2018). The Democratic Representative, Alexandria Ocasio-Cortez, and the Sunrise Movement are widely credited with galvanising support for the policy programme – of which a green industrial strategy is a key component – particularly amongst younger generations. The boldness of the proposals and the charisma of Ocasio-Cortez appealed to large swathes of American progressives from urban cities to the deindustrialised surrounding areas. Her speeches on the topic – which tend to combine apocalyptic prophesising, utopian imagery and prosaic policy solutions – has re-shaped America's political discourse. The scale of her ambitions were quickly matched by progressive parties in Europe that seized on the opportunity to advocate similar policy programmes. It has quickly become the most popular packaging of industrial policy of the current political moment.

The Global Economy's Role in the Climate Emergency

The onset of climate change, glacial retreat, rising sea levels, natural resource depletion, air and water pollution, deforestation, increasing waste, soil degradation, desertification, and biodiversity loss are beyond scientific dispute (AAAS 2014, UNDP 1996, Rockström *et al.* 2009, IPCC 2018). According to the Global Footprint Network, humanity is currently using nature 1.7 times faster than our planet's ecosystems can regenerate, and if every country on the planet consumed planetary resources at the rate of the UK then we would require 2.85 planet earths (Global Footprint Network 2019). If the global ecological footprint of human activity is not redressed it is projected that the ecosystem will decreasingly be able to sustain human civilisation. There will be increasing risks of wildfires, flooding, weather volatility (including severe storms and heatwaves), soil degradation and plummeting agricultural production, disruptions to a plethora of global supply chains, and forced displacement of populations. Major towns and cities may be permanently submerged and large geographical areas rendered uninhabitable (IPCC 2018).

Climate change is amongst the most pressing of these environmental issues. The IPCC believe that to avoid catastrophic climate change we must reduce global greenhouse gas emissions 45% by 2030 and 100% by 2050. This demands, in the words of the IPCC, "rapid, far-reaching and unprecedented changes", including to systems of production and consumption in the global economy (IPCC 2018). The recognition of climate emergency and the 2015 Paris Accord indicate a degree of political commitment to decarbonisation, but the specific political and economic elements of these commitments remain ambiguous.

The operations of the global economy are deeply complicit in placing intolerable pressure on planetary ecosystems. This includes entrenched and normalised systems of production and consumption that span the global economy, most notably those in the fossil fuel, transport, aviation, and agriculture industries (Newell 2013, Pollin 2015). These systems of production and consumption tend to generate high levels of greenhouse gas emissions and/or require the continual extraction of natural resources. The causal link between industrialisation and the rise of greenhouse gases can be traced back as far the industrial revolution and, at a planetary level, that link remains strong today (Jarvis *et al.* 2012, Brand and Wissen 2012).

It is for this reason that many political economists believe the current geological age should be understood not as the Anthropocene but instead as the 'Capitolocene'. The latter term captures

the centrality of (otherwise naturalised) economic systems in driving processes of ecological destruction, as well as eschewing the politically-disabling Malthusian focus on ‘humans’ as the primary source of geological impact (Moore 2017).

Simultaneously, climate change is likely to lead to numerous market failures. Macroeconomic modelling exercises demonstrate that climate change poses serious consequences for macroeconomic and financial stability. This includes disruption to the production practices and resource inputs of numerous supply chains, increasingly volatile agricultural production in regions affected by drought or other climate-related changes, the re-evaluation of asset prices, increased insurance claims and liabilities for insurance and reinsurance companies, and increasingly frequent banking crises (Christophers 2017; Lamperti *et al.* 2019). As such, the need to avert the instability wreaked by climate change should be seen not simply as a moral imperative but also an economic necessity.

It has become a common political tendency for ecological issues to be portrayed as technical and apolitical problems to which businesses and consumers must respond rather than symptoms of global capitalism. Yet a transformation on the scale and at the speed required simply cannot be left to the businesses and consumers in unfettered markets. Karl Polanyi’s warning that “leaving the fate of soil and people to the market would be tantamount to annihilating them” (Polanyi 1944: 137) remains relevant today. The climate emergency requires the (belated) intervention of states around the world to transform the industries most associated with the degradation of the global commons.

The Green New Deal

The Green New Deal was originally devised in London in 2008 by the Green New Deal Group comprising Caroline Lucas, Richard Murphy, Ann Pettifor, Larry Elliot and Andrew Simms amongst others (Green New Deal Group 2008). It received support from numerous figures at the time including the United Nations (UNEP 2009). Unfortunately, the ‘public debt crisis’ narration of contemporaneous political events, that rationalised the turn to austerity, rendered any such Keynesian stimulus politically unviable. As public investment contracted during the period of austerity, the recession was prolonged and the growth models which had produced both the crash and ecological degradation were left largely unmodified.

At the heart of the Green New Deal idea is one of the most fundamental presuppositions in the study of political economy. Put simply, that the global economy is organised and continuously re-shaped by political authorities. This includes most obviously the policies of the state. Given the timelines imposed upon us by the climate science, it is surely uncontroversial to say that a programme of industrial decarbonisation of the rapidity and scale required can only be orchestrated by states. Indeed, it is difficult to conceive of a successful and equitable transition that doesn't include the state's powers to regulate, outlaw, marshal public investment, disincentivise and incentivise through tax policies, and implement industrial policy. The state – love it or hate it – is unrivalled as a *body politic* in orchestrating macroeconomic change. States cannot act in isolation of course – they must work in collaboration with each other as well as local governments, local communities and labour unions to design the policies that accomplish just transitions. Nonetheless, the capacity and legitimacy of states render them *primus inter pares* in meeting the governance challenges of transforming economies and societies (Bailey and Craig 2018).

The Green New Deal has become a prominent feature of North American and European political discourse. The charisma of Alexandria Ocasio-Cortez helped raise the profile of the policy agenda and capture the imaginations of young progressive activists. Inspired by the success of Ocasio-Cortez and the Sunrise Movement, a collection of grassroots campaigners, trade unionists and politicians from the Green Party, Labour Party and Conservative Party sought to revive a British version of the idea after a decade of dormancy in the early months of 2019 (Satow 2019, Miliband *et al.* 2019). The agenda has brought together young green-minded activists, a selection of labour unions (such as the shipbuilders in Belfast demanding the docks be nationalised and utilised for renewable energy production), and those politicians seeking to address the economic failings of current growth strategies.

The industrial policy component of the Green New Deal proposals are designed to usher in the kind of structural transformation of national economies required by the climate science. These proposals entail vertically supporting the growth of low-carbon economic sectors through subsidies and tax incentives, financing the expansion of renewable energy production, improving energy efficiency through retrograding residential and commercial buildings, enforcing stronger regulations and tax disincentives on fossil fuel companies and the industries fuelled by them, and rolling out low-carbon public infrastructure. The industrial interventions comprising the Green New Deal will differ between countries, but in the UK it could include

the electrification of cars produced by the automotive industry, upgrading production systems in manufacturing and chemical industries, financing the production of solar and wind power, and imposing stringent green regulations on the financial sector.

As can be inferred through the Keynesian heritage of the term, the Green New Deal is not only a decarbonisation project but is also designed to create well-paid jobs and educational and training opportunities in technology development, manufacturing and construction (US Congress 2019). In this regard, the green industrial policies deployed by the German and Danish governments in recent years, which have fostered the growth of low-carbon energy companies, could serve as templates for UK policy-makers.

Unlike Roosevelt's New Deal, though, the modern day proponents of the agenda tend to insist that the programme represents a 'new social contract' (Gunn-Wright and Hockett 2018: 9). This entails a commitment to ensuring that public investment programmes reduce racial, gender and income inequalities, inaugurating a more progressive taxation regime, providing universal healthcare, introducing a 'jobs guarantee', and investing in sectors with limited multiplier effects such as the care economy and the public sector. These measures are not 'add-ons', Green New Deal proponent insist. Instead they should be seen as essential measures for reducing the exposure of the labour market to any economic turbulence created by the policies designed to bring about a transition to environmental sustainability and ensuring that a green transformation of the economy does not reproduce existing inequalities between workers (Moore *et al.* 2019, Klein 2019).

A profoundly troubling critique of the policy is that the construction of renewable energy infrastructure itself has environmental consequences. The manufacture of this new infrastructure itself will not be free of emissions, and it has been pointed out that wind turbines, solar panels and electric batteries require the extraction of finite resources from around the world such as cobalt, lithium, silver and copper. As a result, Asad Rehman of War on Want believes that the Green New Deal is borne of a colonial mindset which posits that "the UK and other rich countries are entitled to a greater share of the world's finite resources irrespective of who we impoverish in doing so, or the destruction we cause" (Rehman 2019). The dash for mineral extraction that is the corollary of any putative green new deal would, in Rehman's mind, signify "a new form of green colonialism that will continue to sacrifice the people of the global south to maintain our broken economic model" (Rehman 2019). The specific issues surrounding mineral extraction are indeed deeply troubling. As this suggests, a truly *just*

transition requires more than the manufacture of new technology and infrastructure in a handful of countries. It must also include a commitment to counteracting the injustices of past and future extractivism through radical political action that tackles inequalities on a global scale (Taylor and Paul 2019, Varoufakis and Adler 2019). This serves to underline the need to combine industrial policy with another component of the Green New Deal – the policies which represent a new social contract capable of alleviating global inequalities and embedding the economy into society and planetary limits.

The orchestration of a green industrial intervention by policymakers at the Treasury and the Department of Business, Energy and Industrial Strategy will not by itself be sufficient to accomplish the harmonisation of environmental sustainability and economic sustainability. This accomplishment may require numerous other forms of government intervention and economic transformation in addition to, or immediately following, the implementation of a Green New Deal. This may include stronger regulatory and tax disincentives imposed on the industries most closely associated with ecological degradation (not least to ensure the ‘multiplier effect’ is channelled elsewhere), a complementary “post-industrial strategy” that supports economic sectors not likely to add to GDP but crucial to social wellbeing, and a renewal of the welfare system. It may also include more radical forms of economic transformation that challenge some sacred cows of capitalist economic management that go far beyond the ‘win-win’ policy scenarios being presented by Green New Deal activists. Just transitions to sustainability, if they are to occur, will thus be multifaceted and strongly shaped by the prevailing political and economic conditions of each country. An ambitious green industrial intervention should certainly not be thought of as a ‘silver bullet’ by either policymakers or activists, but it does promise to make significant inroads toward meeting national decarbonisation targets through confronting key engines of ecological degradation. The linking of industrial policy with environmental targets is thus a crucial component of the UK’s response to the climate emergency.

The Politics of Greening Industrial Policy in the UK

The language of industrial policy was re-introduced to British Politics by Theresa May in 2016, after a long hiatus in which it was widely seen as a relic of a bygone era. Its re-introduction was seen as a recognition that political action was required to tackle the various economic

weaknesses and dysfunctions laid bare by the global financial crisis, as well as the disaffection with the status quo underlying the vote to leave the European Union. As Berry and Barker outlined in a previous Future Economies Research and Policy Paper, these failings included the UK's trade deficit in goods, low levels of investment in R&D, the paucity of financing options for SMEs, stark geographic inequalities, and training and skills shortages (Berry and Barker 2019). Theresa May's purported desire as Prime Minister was to build "an economy that works for everyone" (May 2016).

In November 2017, the much-anticipated industrial strategy white paper identified four 'grand challenges' towards which the government's industrial policies should be geared – one of which was the need for "clean growth" (HM Government 2017). The recently established Department of Business, Energy and Industrial Strategy (BEIS) seemed to possess the relevant policy portfolios needed to deliver on this mission.

This turn towards 'One Nation' Conservative interventionism, however, proved to be short-lived. Progress on 'cleaning' Britain's growth model was soon hindered by the Treasury and the political maelstrom created by Brexit. As Theresa May struggled to command the support of her party in the midst of the Brexit negotiations, reforms to existing government policy proved more limited than initially anticipated. The continued emphasis on the conventional priorities and instruments of industrial policy – capital spending on infrastructure and support for R&D – reflected the antipathy towards state-led macroeconomic change held by many senior figures in the Conservative Party.

Under the leadership of Boris Johnson, the 2019 Conservative Party manifesto seeks to trumpet the environmental achievements made so far – based typically on misleading statistics rooted in methodological nationalism – and re-state the belief that "free markets, innovation and prosperity can protect the planet" (Conservative Party 2019). The manifesto does recognise the need to reach net zero emissions by 2050 and promises to offer invest in the energy efficiency of public sector buildings, homes and certain systems of energy production. It also pledges to provide budgets to deal with specific environmental issues such as flood defences (Conservative Party 2019). In this sense, the manifesto does represent a degree of evolution in Conservative Party policy. Yet the ideological commitment to market-based solutions rather than interventionist political action means that the manifesto refrains from offering an industrial strategy that remedies the root economic drivers of the crisis. It thus fails to live up

to the Conservative Party’s proclaimed ‘ambition’ on tackling the climate emergency. Indeed, its professed ambition is belied by the decision to set long-term targets with minimal short-term commitments, as well as the self-congratulatory posturing that has characterised the party’s campaigning.

The 2019 Labour Party Manifesto, meanwhile, places far greater importance on industrial policy as a tool for instigating economic and environmental change. Additional public investment will be manifest in a ‘Green Transformation Fund’ worth £250 billion as well as a National Investment Bank tasked with allocating a further £250 billion of credit over 10 years for the purpose of funding the types of production, infrastructure, enterprise and innovation compatible with decarbonisation goals (Labour Party 2019). They also pledge to strengthen the powers of financial regulators in order to “mobilise green investment” and “manage the risk to financial stability posed by short-sighted investment in polluting assets” (Labour Party 2019). Through mobilising both public investment and attempting to ‘crowd in’ private investment, Labour seek to transform a range of industries, transport systems, energy sources and buildings in ways that achieve “the majority” of the UK’s emission reduction by 2030 (Labour Party 2019). It is projected that one million ‘green jobs’ would be created via investment in retrofitting buildings and in the nascent renewable energy sector (including in offshore and onshore wind, tidal and solar energy production). The agenda has become a key pillar of Labour’s economic pitch to the electorate.

The Labour leadership eschew the ‘Green New Deal’ as a term in favour of ‘green industrial revolution’ on the basis that the former is not part of Britain’s ‘national political memory’ (McDonnell 2019), but nonetheless the activities of Green New Deal campaigners are regularly acclaimed (McDonnell 2019, NEF 2019). Moreover, a Green New Deal bill was put forward in the House of Commons in March 2019 by the Labour Party’s Clive Lewis MP alongside Caroline Lucas of the Green Party, which in comparison to American iterations contained a markedly stronger emphasis on regional inequalities, reversing austerity measures, and the expansion of public ownership and democratic control of industry (Lucas 2019, Satow 2019). Building on the prior calls for a ‘green jobs revolution’ in 2018 (BBC 2018), the promise of a ‘green industrial revolution’ embodied a very similar agenda to the Green New Deal. The term was used throughout 2019 by the Shadow Chancellor, John McDonnell, the Shadow Secretary of the Department of Business, Energy and Industrial Strategy, Rebecca Long-Bailey, and the

Labour Party's first minister of Climate Justice and Green Jobs, Danielle Rowley, amongst others. The agenda then became a key component of Labour's electoral campaigning.

For the Labour Party this agenda represents not only a commensurate and electorally expedient response to the climate emergency; it also reflects an opportunity to transform the unstable and unbalanced UK economic strategy (sometimes referred to as the Anglo-Liberal Growth model) and invest in British jobs after years of austerity. Addressing regional inequalities through the creation of green jobs has long been a theme of Labour rhetoric but it has become increasingly prevalent. Rebecca Long-Bailey has hailed the green industrial revolution as an "opportunity to rebuild Britain and many of those communities that had been "left behind" and address both inequality and climate change (NEF 2019). She stated that a future Labour government should "transform the UK through a green jobs revolution, tackling the environmental crisis in a way that brings hope and prosperity back to parts of the UK that have been held back for too long" (Long-Bailey 2019). This represents not only an inclination towards decarbonisation but also an economic transformation which (they hope) will appeal to working class voters feeling alienated due to decades of deindustrialisation, public service cuts, and the failure of democratic institutions to realise Brexit.

In order to navigate the numerous political obstacles pertaining to the institutional terrain of the British State, Labour plan a dual transformation of UK fiscal and monetary policy-making. The Treasury's investment rules will purported be redesigned and a newly-created 'Sustainable Investment Board' would bring together the Chancellor, the Business Secretary and Bank of England Governor to "oversee, co-ordinate and bring forward investment" (Labour Party 2019). These institutional transformations are crucial to ensuring investment capital is successfully mobilised in service of a green industrial strategy.

The electorate's shifting priorities has also prompted the Liberal Democrats to profess an interest in green industrial policies. The current leader, Jo Swinson, pledged a series of measures including re-inaugurating a Green Investment Bank with powers to borrow money from the private sector designed to vertically target the nascent low-carbon economy, as well as bringing back a department of climate change. These institutions would help make progress on renewable energy production, building insulation and the transition to electric vehicles by 2030 (Liberal Democrats 2019). In addition, Swinson has reversed her support for the fracking industry in the face of a public backlash. These commitments are far weaker than the pledges

made by the Labour Party and Green Party, but they could potentially be significant if the Liberal Democrats were called upon to form a coalition in the event of a hung parliament.

The Green Party's ambitions dwarf the promises made by all other UK parties. They have pledged to implement an industrial strategy that transforms the country's economy, infrastructure, transport, agriculture and housing stock, in order to reach net zero emissions by 2030 (Green Party 2019). They plan to borrow £1 trillion over ten years to achieve this mission; four times the amount pledged by Labour (Green Party 2019). Furthermore, they profess a greater commitment to ensuring that a Green New Deal remedies past injustices and global inequalities than any other party. They explicitly recognise that "as one of the world's richest countries and being amongst the first to industrialise, the UK has caused more historical climate change emissions than most. We have a moral imperative to right the wrongs of the past, including using our influence and wealth to help alleviate suffering and redress global power imbalances" (Green Party 2019: 45). They propose ensuring "just supply chains" for the "materials necessary for the Green New Deal", making finance and technology available to support developing nations formulate local Green New Deals, and prioritising the need to tackle the climate emergency and poverty in the UK's international aid budget (Green Party 2019: 45-46). The Green Party are represented by one MP in the House of Commons, however, and are not widely expected to significantly increase their representation in the near future.

The sudden desire for political parties to display their green credentials to the electorate, and the palpable enthusiasm for the Green New Deal in the UK more broadly, means that green industrial policies are within the parameters of the Overton window more so than ever before. Yet given the 'First Past the Post' electoral system it is uncontroversial to contend that operationalising a green industrial strategy in the UK is contingent on a General Election outcome that places the Labour Party in government. Subsequently, operationalising a green industrial strategy successfully also depends on the skilful navigation (and perhaps transformation) of the institutional setting bequeathed to that hypothetical government. These are not insignificant impediments.

Financing a green industrial transformation

The financing of this programme of public investment could be derived from numerous sources of governmental revenue, using both fiscal and monetary policy tools, all of which represent partial but viable options for policy-makers.

Most obviously, governments could countenance raising additional taxation to fund a green industrial strategy. The politics of taxation renders this treacherous terrain in Westminster, but raising corporation tax would perhaps represent the path of least resistance and help remedy the market's collective action problem of low investment. Such a move would be met with fierce opposition but would represent a conventional approach. Numerous other avenues of raising government revenue through taxation are also apparent, not least carbon taxes and wealth taxes. Introducing or raising carbon taxes on certain forms of consumer spending (e.g. booking multiple flights per year) would help generate additional tax income as well as disincentivise certain forms of consumption. It is vital to ensure, however, that any additional taxes levied are not regressive in their effects, in order to ensure a just transition and avoid summoning *gilets jaune* protests in the UK.

Equally, governments could simply re-direct a host of subsidies that are currently awarded to industries associated with ecological degradation to the putative green economy. According to the UK's Environmental Audit Committee, energy subsidies are currently "around £12bn a year; much directed at fossil fuels" (Environmental Audit Committee 2013). The re-allocating of government capital to low-carbon and jobs-rich sectors of the renewable energy industry would help nurture their growth as well as send strong signals to the capital markets about the new developmental strategy, thereby encouraging a 'crowding in' of private finance.

The relatively inexpensive cost of borrowing afforded to current governments enables further 'fiscal space'. Investment capital remains attracted to the safe haven of government bond yields in the midst of current economic uncertainty, meaning that (at the time of writing) the UK government is able to borrow money from the capital markets over a ten-year period for less than 1% interest. Indeed, it is cheaper to finance a stimulus for Sajid Javid today than it was for George Osborne throughout his entire tenure in Whitehall (Trading Economics 2019). An entrepreneurial state could seize this opportunity to channel risk-averse capital into productive outlets. As founding Green New Deal proponent, Ann Pettifor, has recently argued, the creation

of well-paid jobs and profitable industries through this particular investment will generate higher tax revenues which can help pay back this borrowing in the long-term (Pettifor 2019).

Any optimism of generating revenue through taxation and borrowing should be tempered, however, by recognising the inevitable confrontation of Green New Deal proposals with the ‘Treasury View’. The Treasury’s command of the government’s purse strings and its *de facto* role in arbitrating domestic policy has endowed it with a degree of control which far exceeds its notional remit (Meadway 2019). As Alfie Stirling noted at a recent Future Economies event, the Treasury’s fiscal rules represent a formidable political barrier to implementing a fiscal stimulus on the scale required by the climate emergency. The tendency to promote ‘growth model repair’ rather than transformation, in the words of Martin Craig, renders Whitehall the most significant obstacle to implementing a truly transformative economic agenda in the UK (Craig, 2018).

Partly for this reason, circumventing the Treasury by capitalising on monetary stimulus, rather than fiscal stimulus, is appealing to many Green New Deal advocates. Quantitative Easing – which combines the *ex nihilo* creation of bank reserves by central banks with asset purchases in the core economy – represents a further stream of public investment that could be harnessed for progressive purposes. This form of stimulus became a new tool of crisis management for central banks across the globe after the 2008 financial crash, with the European Central Bank introducing yet another round of bond purchases at the time of writing (September 2019). Although the character of the asset purchases comprising successive rounds of quantitative easing have undoubtedly had regressive distributional effects and exacerbated climate change (Bank of England 2012, Ryan-Collins 2013, Green and Lavery 2015, Matikainen *et al.* 2017, Bailey and Craig 2018), there have been numerous calls to infuse the programme with greater social and ecological purpose (Ryan-Collins 2013, Corbyn 2015, Murphy 2018, Coppola 2019). A recalibration of the criteria for asset purchases inside Central Banks could inaugurate a round of ‘green quantitative easing’, designed to promote a transformational development strategy (Ryan-Collins 2013, Bailey and Craig 2018). In this scenario, a Central Bank would purchase the assets of a ‘green investment fund’ managed by another state agency, which would then be utilised to make a series of strategic investments in low-carbon sectors. Given the macroprudential remits imposed on Central Banks and the evident systemic risks presented by climate change, the Governor of the Bank of England has already admitted that greening quantitative easing is a possibility (The Financial Times 2018). The prospects of recalibrating

the QE programme will be heavily conditioned by the appointment of Carney's successor in 2020.

The exact composition of the financial plan underpinning a green stimulus will be dependent on the prevailing political and economic conditions of the time, but the historically forgiving fiscal space and innovative monetary instruments available to policy-makers at the present moment presents a remarkable opportunity. With private capital tending to be risk averse and attracted to unsustainable economic sectors (Di Muzio 2011), fiscal and monetary policy tools are crucial predicates to operationalising any green economic transformation.

Conclusion

Time is running out on our ability to mitigate the most catastrophic consequences of the climate crisis. The timeframe given by the IPCC demand that British economic statecraft in the 2020s – of which industrial policy is a key component – become cognisant of the environmental targets agreed by the 2015 Paris Accord. This requires the historical silos between the government's economic and environmental objectives to be speedily dismantled.

The Green New Deal may not amount to a silver bullet for ecological crisis resolution on its own, but it does constitute a vital set of measures for confronting the dynamics in the global economy that intensify greenhouse gas emissions and ecological degradation more broadly conceived. The proposals put forward by proponents offer a prescriptive outline of the types of industrial transformation demanded by the climate science, the industrial policy tools required to orchestrate such change, and the public policy measures needed to ensure that the transition is socially just. As well as representing a programme for decarbonisation, it also offers a remedy for Britain's longstanding issues surrounding productivity and regional inequality.

The barriers to implementing the Green New Deal in the UK will undoubtedly be formidable. The re-introduction of the language of industrial strategy by May proved to be a false dawn as the Department of Business, Energy and Industrial Strategy has sought to shore up – rather than transform – the existing UK growth model. The *modus operandi* of both the Treasury and Bank of England are likely to present even fiercer opposition to proposals of green industrial transformation. The erosion and privatisation of the UK's Green Investment Bank in the last

ten years demonstrates the hostility within the corridors of power in Whitehall towards even incremental forms of green industrial policy. It is, therefore, likely that we will need to accomplish a green transformation of the British state before a green transformation of the British economy can be orchestrated.

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Future Economies
Business School
Manchester Metropolitan University
Oxford Road
Manchester
M15 6BH

<https://www2.mmu.ac.uk/future-economies>

https://twitter.com/mmu_futureecon